

RECEIVED
CENTRAL FAX CENTER

REMARKS

AUG 04 2006

The present amendment is submitted in response to the Office Action dated May 8, 2006, which set a three-month period for response, making this amendment due by August 8, 2006.

Claims 1 and 3-4 are pending in this application.

In the Office Action, claim 3 was rejected under 35 U.S.C. 112, second paragraph, as being indefinite. Claims 1-4 were rejected under 35 U.S.C. 102(b) as being anticipated by, or in the alternative, under 35 U.S.C. 103(a) as obvious over JP60126322 ("JP '322"). Claims 1-4 were rejected under 35 U.S.C. 103(a) as being unpatentable over JP '322 in view of U.S. Patent No. 4,831,096 to McLeay and U.S. Patent No. 5,539,054 to LaFleur.

In the present amendment, claim 3 was amended to address the rejection under 35 U.S.C. 112, second paragraph.

Claim 1 was amended to add the features of claim 2, but narrowing the preferred range to 1:99 to 10:90. Claim 2 was canceled. This change was also made to the specification on page 8. The Applicants respectfully submit that this change to the disclosure does not constitute new matter, since this narrower range is encompassed in the broader ranges of 1:99 to 30:70 and 1:99 to 25:75, originally disclosed on page 8 of the specification.

The Applicants respectfully submit that amended claim 1, as well as dependent claims 3-4, defines a patentably distinct set of features that is neither

disclosed nor made obvious over the cited references and reference combinations.

One stated object of the present invention is to provide a method manufacturing a polyurethane elastic fiber having greatly improved thermosetting properties without drastically changing the 200% modulus of the polyurethane elastic fiber or greatly decreasing the elongation thereof.

In contrast, the stated object of JP '322 is to provide a stable method of melt-spinning a polyurethane elastic fiber. In this respect, the present invention and the method of JP '322 address different technical problems.

To solve the technical problems addressed by the present invention, described above, number average molecular weights of polystyrene and polyurethane are selected so as to fall within their respective appropriate ranges and, at the same time, the mixing ratio of the two polymers to be mixed together is selected so as to fall within the appropriate range.

In contrast, the JP '322 references solves its technical problem in that melt flow rates (MFRs) of polystyrene and polyurethane are selected so as to fall within their respective appropriate ranges, and at the same time, the solution viscosity of polyurethane before and after melt spinning is selected so as to fall within a predetermined range.

In comparing the present invention and JP '322, the technical methods used by each are different.

The MFR and the solution viscosity of JP '322 are applied only to the case of melt-spinning, but are not applied to cases of dry spinning or wet spinning.

both of which lack a melting process. In addition, the MFR varies depending on temperature and represents the flowability of a polymer melt at a predetermined temperature. Accordingly, it is not possible to directly compare it with the number average molecular weights, limited to a specific range, as in the present invention.

In JP '322, the reason for the condition that MFR-A of thermosetting polyurethane, MFR-B of polystyrene, and MFR-A/MFR-B must satisfactorily fall within the specific ranges is to improve the spinnability upon melt spinning, by realizing stable mixing and uniform dispersion, considering the flowability of polyurethane and polystyrene.

Thus, JP '322 is not directed to efficient thermosetting and does not acknowledge it.

In addition, JP '322 defines the mixing ratio of polyurethane and polystyrene as follows: 30-80% for polyurethane and 70-20% for polystyrene. In other words, polystyrene is mixed in an amount of 20-70% in JP '322.

However, in contrast, the present invention discloses that the spinning stability is deteriorated and that the fundamental properties of polyurethane are drastically degraded when polystyrene is mixed in an amount exceeding 10 wt%. Specifically, Comparative Example 3 of the present application discloses that the 200% modulus and elongation become poor in the case where polystyrene is mixed in an amount of 40 wt%. Therefore, it is clear that JP '322, comprising at least 20 wt% of polystyrene in a mixture cannot accomplish the technical effect of

the present invention, which improves the thermosetting properties of a polyurethane elastic fiber while maintaining the fundamental properties thereof.

As demonstrated in Example 1 through 5, Comparative Examples 1 through 3, and Table 2 of the present application, which depict the results thereof, the present invention realized excellent thermosetting properties with minimal change in 200 % modulus and elongation.

In contrast, JP '322 merely shows good spinnability and fiber quality (elongation), as shown in Tables 1 through 3.

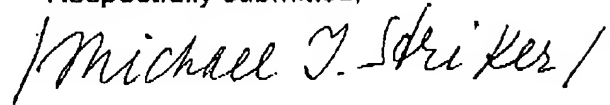
Because amended claim 1 includes features that are not disclosed by JP '322, the rejection under Section 102 must be withdrawn. For a prior art reference to anticipate a claim under 35 U.S.C. 102, the reference must disclose each and every element of the claim with sufficient clarity to prove its existence in the prior art. ***Motorola, Inc. v. Interdigital Tech. Corp.***, 43 USPQ 2d 1481, 1482 (Fed. Cir. 1997).

Likewise, under the standards articulated with regard to rejections under 35 U.S.C. 103, the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. ***In re Fritch***, 23 USPQ 2d 1780, 1783-84 (Fed. Cir. 1992).

For the reasons set forth above, the Applicants respectfully submit that claims 1 and 3-4 are patentable over the cited art. The Applicants further request withdrawal of the rejections and reconsideration of the claims as herein amended.

Should the Examiner have any further comments or suggestions, the undersigned would very much welcome a telephone call in order to discuss appropriate claim language that will place the application into condition for allowance.

Respectfully submitted,



Michael J. Striker
Attorney for Applicant
Reg. No.: 27233
103 East Neck Road
Huntington, New York 11743
631-549-4700